WHAT IS CLAIMED IS:

1. An image processor converting M-valued image data of a target pixel to N (M > N)-valued image data by error diffusion, comprising:

correction means correcting said M-valued image data of said target pixel with an N-valued error resulting from N-arization of peripheral pixels for said target pixel and generating corrected image data;

N-arization means comparing said corrected image data with a threshold and converting said corrected image data to N-valued image data of said target pixel; and

output means outputting an N-valued error having a smaller bit number than said corrected image data by multivalued dithering on the basis of said corrected image data and said N-valued image data.

2. The image processor according to claim 1, further comprising:

storage means storing said N-valued error output from said output means.

3. The image processor according to claim 2, wherein

said correction means computes an average weighted error on the basis of said N-valued error of said peripheral pixels for said target pixel stored in said storage means and weighting factors, and performs correction on the basis of said average weighted error.

4. The image processor according to claim 3, wherein

a relation $m = 2^n$ holds between the number n of bit reduction by said multivalued dithering and the sum m of said weighting factors.

5. The image processor according to claim 1, wherein

said output means includes means performing multivalued dithering on said corrected image data.

6. The image processor according to claim 5, wherein

said output means generates said N-valued error on the basis of said corrected image data subjected to said multivalued dithering and said n-valued image data.

7. The image processor according to claim 1, wherein

said output means includes means performing multivalued dithering on difference data between said corrected image data and data based on said N-valued image data.

8. An image processor converting M-valued image data of a target pixel to N (M > N)-valued image data by error diffusion, comprising:

correction means correcting said M-valued image data of said target pixel with an N-valued error resulting from N-arization of peripheral pixels for said target pixel and generating corrected image data;

N-arization means comparing said corrected image data with a threshold and converting said corrected image data to N-valued image data of said target pixel; and

output means outputting an N-valued error having a smaller bit number than said corrected image data on the basis of said corrected image data and said N-valued image data.

9. The image processor according to claim 8, further comprising:

storage means storing said N-valued error output from said output means.

10. The image processor according to claim 9, wherein

said correction means computes an average weighted error on the basis of said N-valued error of said peripheral pixels for said target pixel stored in said storage means and weighting factors, and performs correction on the basis of said average weighted error.

11. The image processor according to claim 8, wherein

said output means includes means performing multivalued dithering

on said corrected image data.

12. The image processor according to claim 11, wherein

said output means generates said N-valued error on the basis of said corrected image data subjected to said multivalued dithering and said N-valued image data.

13. The image processor according to claim 8, wherein

said output means includes means performing multivalued dithering on difference data between said corrected image data and data based on said N-valued image data.

14. An image processing method of converting M-valued image data of a target pixel to N (M > N)-valued image data by error diffusion, comprising steps of:

correcting said M-valued image data of said target pixel with an N-valued error resulting from N-arization of peripheral pixels for said target pixel and generating corrected image data;

comparing said corrected image data with a threshold and converting said corrected image data to N-valued image data of said target pixel; and

outputting an N-valued error having a smaller bit number than said corrected image data on the basis of said corrected image data and said N-valued image data.

15. The image processing method according to claim 14, further including:

a step of computing an average weighted error on the basis of said N-valued error of said peripheral pixels for said target pixel and weighting factors,

for generating said corrected image data on the basis of said average weighted error.

16. The image processing method according to claim 14, further

including:

a step of performing multivalued dithering on said corrected image data.

17. The image processing method according to claim 16, wherein said N-valued error is generated on the basis of said corrected image data subjected to said multivalued dithering and said N-valued image data.

18. The image processing method according to claim 14, further including:

a step of performing multivalued dithering on difference data between said corrected image data and data based on said N-valued image data.